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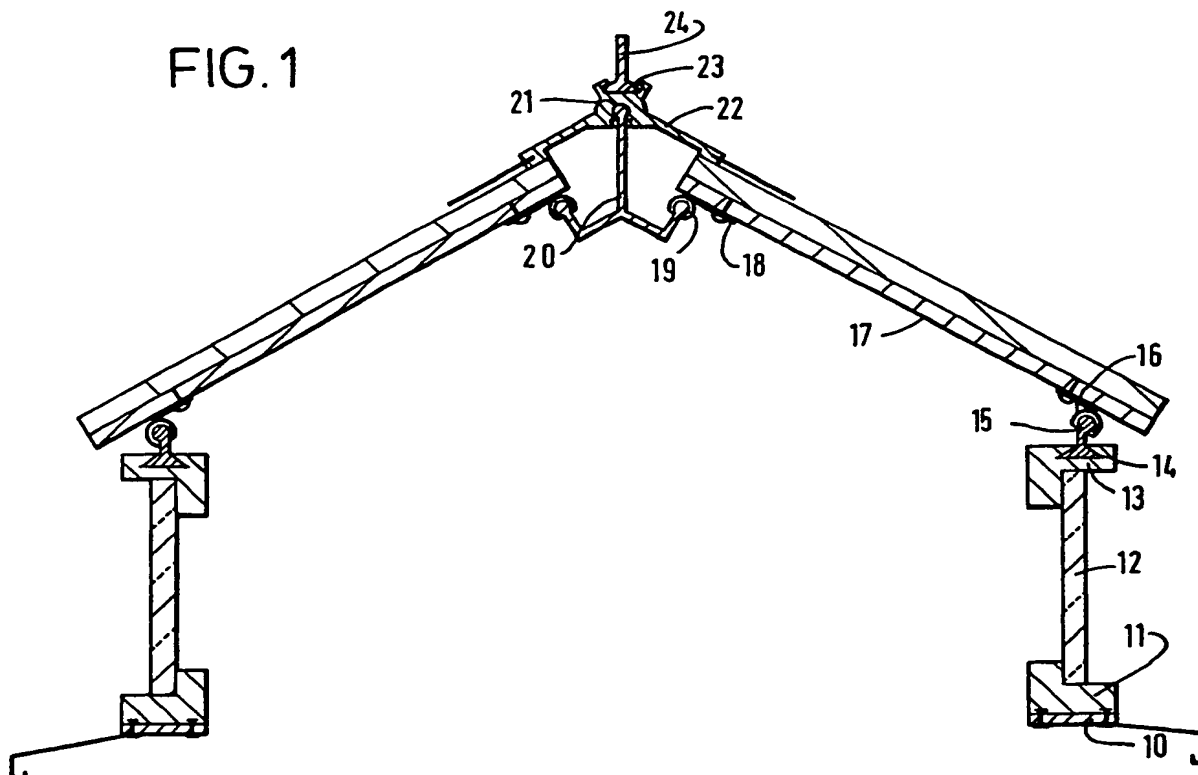
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## (54) Roof construction

(57) A roof construction comprising glazing bars in which the glazing bars 17 are connected to a ridge 20 via ball and socket joints 18, 19 and the glazing bars are also connected to the main frame 13 of wall panels via ball and socket joints 15 and 16, the ball and socket joints having bases adapted to slide in grooves in the glazing bars and in the upper portion of the main frame of the wall units.



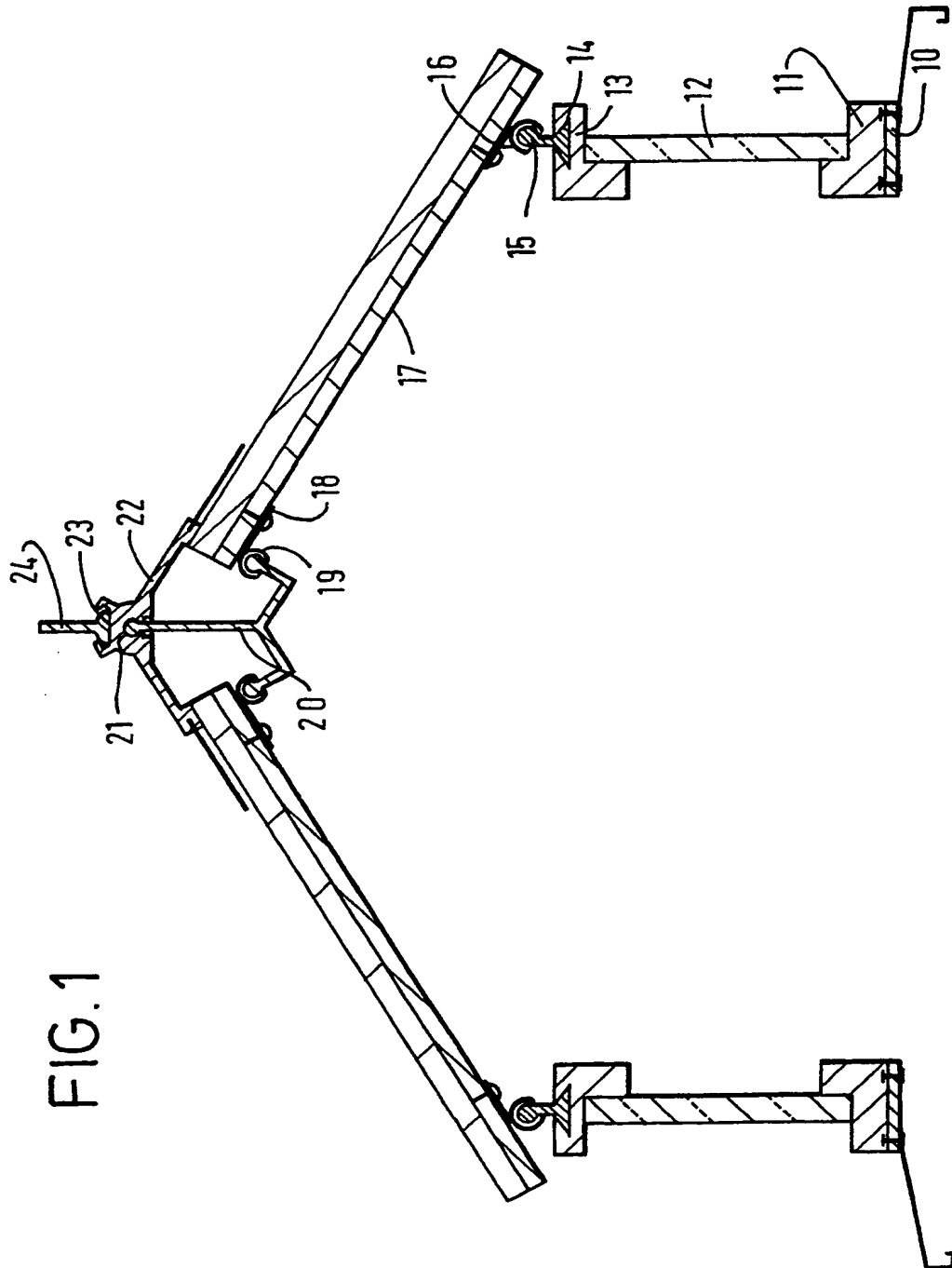


FIG.2

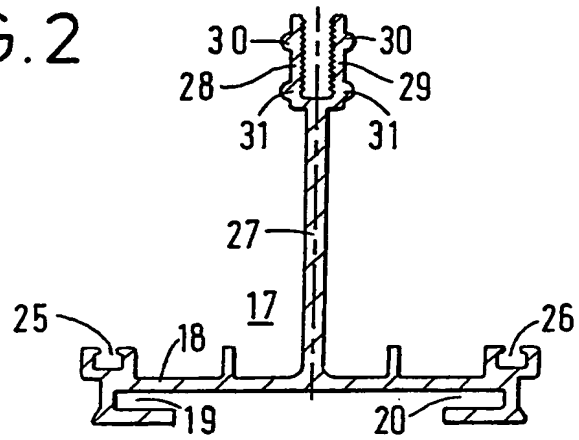


FIG.3

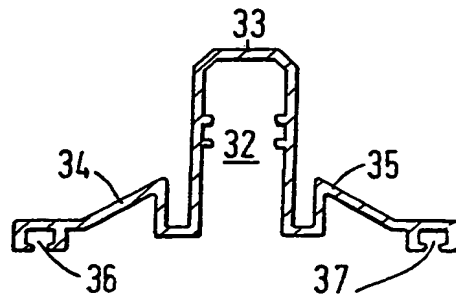


FIG. 4

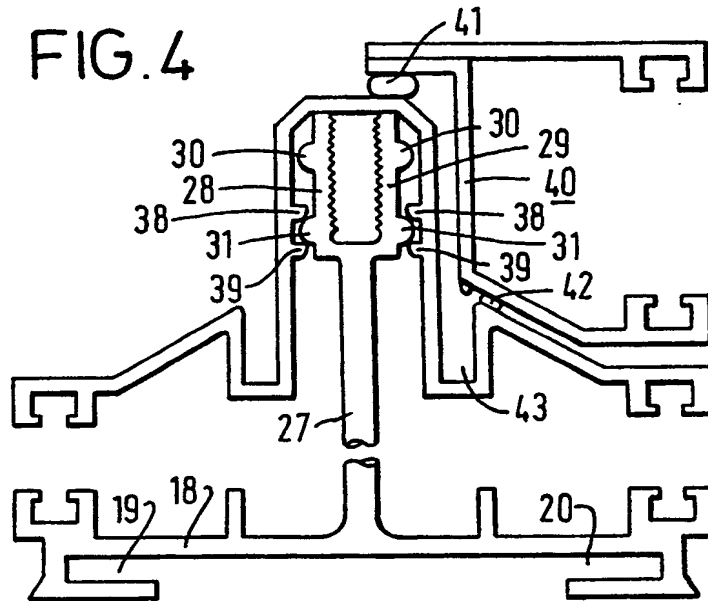


FIG. 5

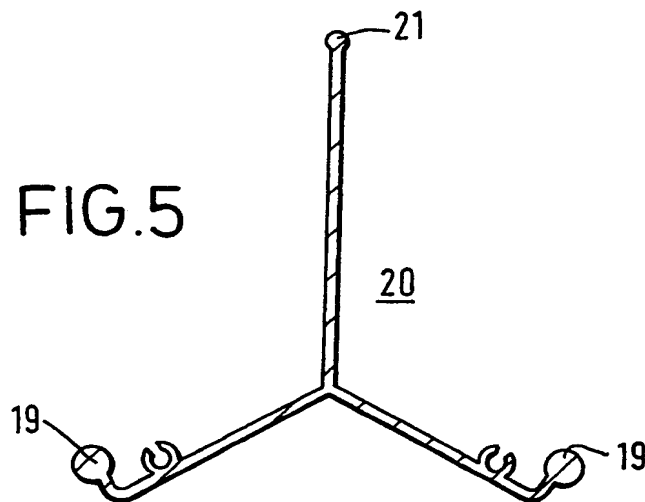


FIG. 6

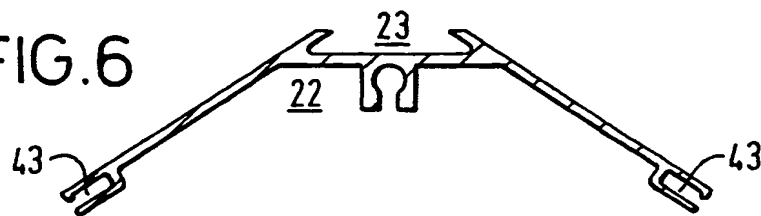


FIG.7

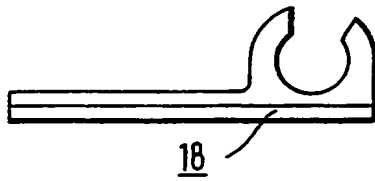


FIG.7a

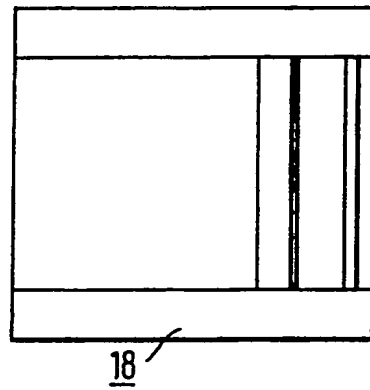


FIG.8

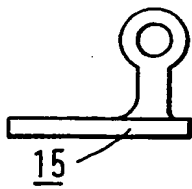
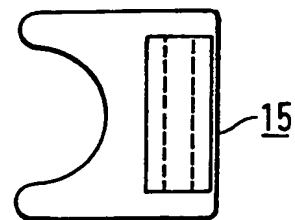


FIG.8a



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ROOF CONSTRUCTION

This invention relates to a roof construction involving the use of glazing bars and has particular reference to the kind of building described in my co-pending U.K. Patent Application No. 9008848.5.

It is particularly relevant to structures such as polygonal  
5 conservatories or greenhouses such as a Victorian type conservatory.

It is also relevant to other buildings which involve walls or panels and glazed rooves, the glazing being either glass or plastic sheeting.

An object of the present invention is to provide a roof construction  
10 and in particular an arrangement of glazing bars, ridged construction and associated parts which enables glazing bars to be prepared from a standardized extruded aluminium or plastic and to be used for different sizes and shapes of glazed rooves.

According to the present invention there is a roof construction in  
15 which glazing bars are connected to the upper ends of walls of a building and to a ridge member through ball and socket joints, a ball or a socket of each joint being mounted on a base plate slidable in a groove in the glazing bar so that the position of the ball, or socket, can be adjusted along the glazing bar to suit a particular  
20 roof construction.



Preferably each glazing bar is in two parts, a bar and a cap, the bar having an upstanding flange adapted to receive the cap, locating means being provided on the upstanding flange so arranged as to locate the cap in different positions as required to accommodate different thicknesses of glass or plastic roofing material.

Preferably said means is in the form of spaced pips locating with corresponding spaced recesses, the pips or the recesses being on the upstanding flange and the recesses or pips on the cap.

10 The upstanding flange may have its upper end tapped to receive a bolt which may be inserted through a hole in the glazing cap to retain the cap on the flange of the glazing bar.

The ridge bar may also have an upstanding flange adapted to support the ridge cap. The ridge cap preferably has laterally directed grooves to receive lead or other flashing. The ridge cap may also have a groove running along its upper surface to receive cresting.

In the accompanying drawings:-

Figure 1 is a diagrammatic section through a building incorporating a roof construction in accordance with the present invention;

20 Figure 2 is a section through a glazing bar embodying the present invention;

Figure 3 is a section through a glazing cap adapted to co-operate with the glazing bar shown in Figure 2;

Figure 4 shows a slightly modified form of the glazing bar and glazing cap when assembled;

Figure 5 is a section through a ridge bar;

Figure 6 is a section through a ridge cap;

5 Figure 7 is a side elevation of a socket joint;

Figure 7a is a plan view of the same joint;

Figure 8 is an elevation of a ball joint; and

Figure 8a is a plan of the same ball joint.

In Figure 1 is shown a section through a building of the  
10 conservatory type which has glazed walls and a glazed roof. The  
glazed walls may be of the type illustrated and described in  
above-mentioned co-pending Application, and they comprise a sill 10  
to which is connected a base member 11 of a wall panel supporting  
sealed glass units 12. The main frame 13 of a wall panel running  
15 along the top of the wall panel has a groove 14 adapted to receive a  
ball joint 15. The ball joint 15 collaborates with a socket joint 16  
in a glazing bar 17. At the other end of the glazing bar 17 is a  
socket joint 18 adapted to collaborate with a ball joint 19 on one  
side of a ridge 20.  
20 The other side of the building is symmetrical and will not be  
described in detail.

Joined to the ridge 20 by a ball and socket type joint 21 is a ridge  
cap 22 and in a longitudinal groove 23 in the upper surface of the

ridge cap 22 is slid cresting 24.

The precise form of the glazing bar can be seen in Figure 2 in which the glazing bar 17 has a base portion 18 and is shaped to form two longitudinal grooves 19 and 20 which are adapted to receive the base  
5 of the socket joint 16 and the base of the socket joint 18. The glazing bar is also provided with grooves 25 and 26 which are adapted to receive sealing strips for the glass.

The glazing bar 17 has an upstanding flange 27, the top end of which is divided to form two walls 28 and 29 on which are locating pips 30  
10 and 31. The internal surface of the walls 29 is tapped to receive a locking bolt as will be described later.

The glazing cap shown in Figure 3 is adapted to collaborate with the glazing bar shown in Figure 2. The cap comprises a central hollow portion 32 adapted to fit over the walls 28 and 29 of the upper end  
15 of the glazing bar flange and to be located by the pips 30 and 31 in one of two possible positions so as to accommodate different thicknesses of glass or the difference between glass thickness and plastic thickness which may be used in the glazing of the roof.

The top end 33 of the glazing cap may be drilled so that a bolt may  
20 be passed through the top end and be engaged in the thread 29 of the glazing bar to hold the cap in position. The cap has side flanges 34 and 35 terminating in grooves 36 and 37 to receive sealing strips adapted to engage the top surface of the glass in the roof when the

glass is in position.

The way in which the glazing bar is assembled with its glazing cap is shown more clearly in Figure 4 which also shows that the glazing cap has locating ridges 38, 39 adapted to co-operate with the pips 5 30, 31 so as to provide the necessary location in either of the positions shown or in a position in which the cap is raised relatively to the glazing bar to increase the space allowed for the glass. The glazing bar may also incorporate the additional hinged structure 40 adapted to receive glass and form the upper edge of a 10 vent. The arrangement of the vent is such that there is a seal 41 and another seal at 42 and a trap at 43 which will receive any water which may run down past the seal 41. The water can be arranged to drain along the trap 43 to the end of the glazing bar cap where it may drain off onto the ground. The ridge bar 20 shown in Figure 1 is 15 shown in more detail in Figure 5 and it will be seen that it incorporates two ball joints 19 adapted to be received in the sockets 18 shown on the glazing bar 17 in Figure 1 and also the ball joint 21 adapted to receive a ridge cap 22, again shown in more detail in Figure 6. The ridge cap 22 has grooves 43 adapted to receive lead 20 or other flashing to collaborate with the glazing bars as shown in Figure 1. The groove 23 running along the top of the ridge cap can also be seen more clearly in Figure 6.

Figures 7 and 7a illustrate one of the socket joints 18 more clearly and Figures 8 and 8a illustrate one of the ball joints 15

more clearly. It will be seen that the ball and socket joints are each shaped with bases to enable them to be received in the grooves in the glazing bars and in the upper part of the main frame of the wall units or wall panels.

- 5 In use the balls and sockets on their bases may be slid into position on the glazing bars and then the glazing bars cut to length to suit a particular construction. Final adjustment can be made during erection and then the balls and sockets can be fixed into position by a pin or screw passing through the base of the ball or  
10 socket joint into the glazing bar.

Similarly, the ball joints in the main frame can be slid along the grooves 14 (see Figure 1) to appropriate positions to accommodate the glazing bars and then fixed by screws or bolts passing through the base of the ball joint into the upper portion of the main frame  
15 13.

CLAIMS

1. A roof construction in which glazing bars are connected to the upper ends of walls of a building and to a ridge member through ball and socket joints, a ball or a socket of each joint being mounted on a base plate slidable in a groove in the glazing bar so that the  
5 position of the ball, or socket, can be adjusted along the glazing bar.
2. A roof construction according to Claim 1 and in which each glazing bar is in two parts, a bar and a cap, the bar having an upstanding flange adapted to receive the cap, locating means being  
10 provided on the upstanding flange arranged to locate the cap in different positions as required to accommodate different thicknesses of glass or plastic roofing material.
3. A roof construction according to Claim 2 in which the locating means consists of pips on the upstanding flange adapted to  
15 collaborate with corresponding ridges on the internal surface of the cap to hold the cap in said different positions.
4. A roof construction according to Claim 2 or Claim 3 and in which the upstanding flange has its upper end tapped to receive a bolt which may be inserted through a hole in the glazing cap to retain  
20 the cap on the flange of the glazing bar.
5. A roof construction according to any preceding Claim and in which a ridge member consists of a ridge bar having an upstanding flange adapted to support a ridge cap.
6. A roof construction according to Claim 5 and in which the ridge  
25 cap has laterally directed grooves adapted to receive lead or other flashing to seal the upper surface of the glass or other glazing

material.

7. A roof construction according to Claim 6 and in which the ridge cap has grooves in its upper surface adapted to receive cresting.

8. A roof construction substantially as hereinbefore particularly  
5 described and as illustrated in the accompanying drawings.

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